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## CLAIMS

1. A method of producing a heating element that is comprised essentially of molybdenum silicide and alloys of this basic material, which forms aluminium oxide on its surface, characterized by producing a material that contains substantially  $\text{Mo}(\text{Si}_{1-x}\text{Al}_x)_2$  and  $\text{Al}_2\text{O}_3$  by mixing a mixture of a silicon and molybdenum compound with an aluminium compound; in that the silicon and molybdenum compound either include  $\text{Mo}(\text{Si}_{1-y}\text{Al}_y)_2$  and are mixed with either an aluminium compound consisting of  $\text{Al}_2\text{O}_3$  or  $\text{Al}(\text{OH})_3$  and possibly mixed with one or more of the compounds  $\text{SiO}_2$ , Si and  $\text{MoO}_3$  or by virtue of the mixture of the silicon and molybdenum compound containing  $\text{MoO}_3$  and Al and Si and/or  $\text{SiO}_2$ ; in that the input components together have a degree of purity corresponding to at least 98%; and in that the mixture is caused to react exothermically and/or by being sintered so that exchange reactions are caused to take place, to form the compounds  $\text{Mo}(\text{Si}_{1-x}\text{Al}_x)_2$  and  $\text{Al}_2\text{O}_3$ , where x is caused to lie in the range of 0.4 - 0.6.

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2. A method according to Claim 1, characterized in that said  $\text{SiO}_2$  is included in silicates, where remaining substances in the silicate have properties such that molybdenum silicide is unable to alloy with said substance or substances and have such properties that the symmetry of the crystal lattice of the molybdenum silicide is retained.

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3. A method according to Claim 1 or 2, characterized in that x is caused to lie in the range of 0.45 - 0.55.

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4. A method according to Claim 1 2 or 3, characterized by adding one or more of the following sintering auxiliaries  $\text{MgO}$ ,  $\text{CaO}$ ,  $\text{SiO}_2$  and  $\text{Y}_2\text{O}_3$  to said mixture.

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5. A method according to Claim 1 2, 3 or 4, c h a r a c t -  
e r i s e d by substituting molybdenum partly with Re or W  
or Nb in the material  $\text{Mo}(\text{Si}_{1-x}\text{Al}_x)_2$ .

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6. A method according to Claim 5, c h a r a c t e r i s e d  
by replacing molybdenum with W in an amount corresponding to  
approximately one third.

10 7. A method according to any one of the preceding Claims,  
c h a r a c t e r i s e d in that the input components have a  
degree of purity of at least 99%.